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EXHIBIT 14
DATE 1/25/11
HB Commerce

# Rocky Mountain Supercomputing Centers, Inc. (RMSC)
# Testimony in Support of
# the Montana Department of Commerce's
# Budget Request for High-Performance Computing (Supercomputer)
# Funding
# for the
# 2013 Biennium

## House/Senate Joint Appropriations General Government Subcommittee

Date
January 25, 2011

*"[We have] a new economic development tool for Montana: Rocky Mountain Supercomputing Centers. Montana, working through RMSC, is proud to ramp up our High Performance Computing efforts — regionally and internationally."*
*— Montana Governor Brian Schweitzer*

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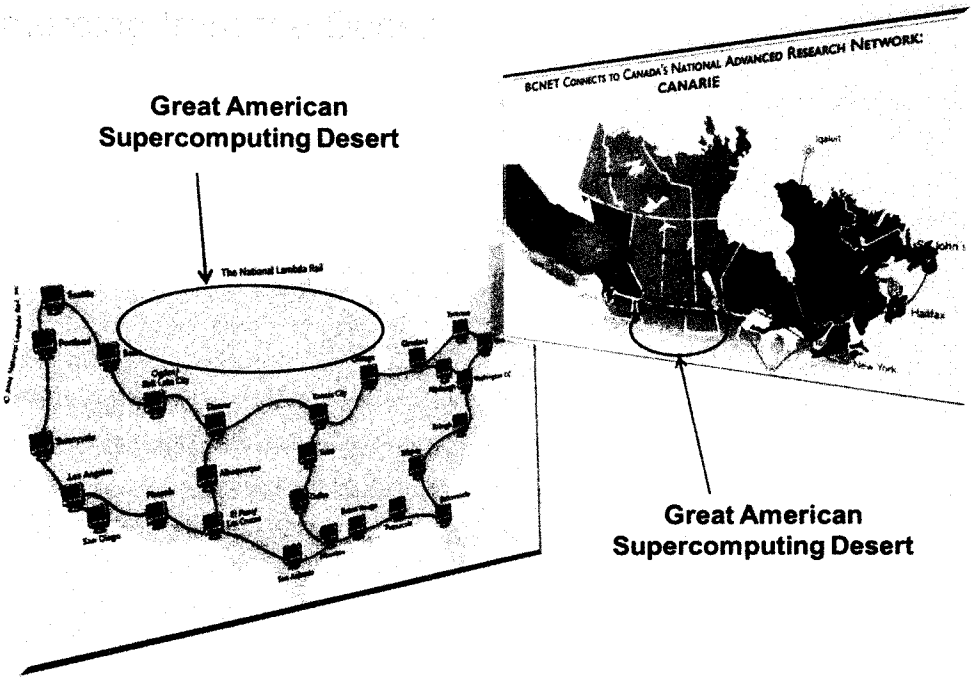

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## RMSC Vision & Mission

The Rocky Mountain Supercomputing Centers, Inc. (RMSC) is a non-profit Montana corporation established and exclusively authorized as the service provider, broker, marketer, administrator and operator of the State of Montana's supercomputing assets.

RMSC is a catalyst and leader offering supercomputing as a service model for Cloud Computing. RMSC can help remove the capacity and time-to-solution constraints of an enterprise showing the strategic impact that supercomputing can make to generate insight and results traditionally not possible before.

RMSC's mission is to enable companies, academia, governments and tribal enterprises to use high-performance computing (HPC) resources to solve difficult problems and to gain a competitive advantage. RMSC works with organizations of all sizes to create collaborations, projects and programs appropriate to their goals and budget. Effectively, RMSC has democratized supercomputing for the masses.

Offering the Supercomputing Platforms as a Service (SPaaS) makes business sense because it can provide industry and academia with HPC software solutions and services as well as the means to host their applications, including support services to port, optimize, test and develop these application workloads/workflows to make maximum use of RMSC's and our Alliance Partner's computing clouds.

### RMSC is "Green"

Green Supercomputing as a concept initiates an effective balance between the performance and reliability of the supercomputer cyberinfrastructure. The trend to create "green" systems has become an indispensable element and top priority in the Information Technology (IT) industry which now considers power consumption and cooling dissipation during the design of such high-end systems.

RMSC as implemented power saving and cooling efficiencies at its data center. We use IBM Cool Blue technology and customized operating systems software and firmware to constantly monitor and optimize performance and electrical/cooling loads on the cyberinfrastructure. These technologies and practices ensure our customers' expectations that RMSC is a "green" computing environment.

### Summary Points

- RMSC puts the power of supercomputing into the hands of small- and medium-sized businesses in Montana and the region.
- RMSC has broken down the barriers that have traditionally prevented small- to medium-sized businesses from accessing the benefits of supercomputing.
- RMSC can save jobs by making Montana businesses, tribal enterprises and universities more competitive and sustainable.
- RMSC has built a "sandbox for innovation" where other organizations can test their technology in the HPC Cloud.
- RMSC is helping transform the State's economy from one based on physical resource development to one based on innovation expanding Montana's human capital potential for the Knowledge Economy.


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# Major Initiatives

## Small- to Medium-sized Enterprises (SME)

RMSC has put the power of supercomputers into the hands of small and medium businesses, tribal enterprises and government agencies in Montana and beyond.

Montana and regional organizations can affordably leverage the speed and capacity of the supercomputer. Thanks to on-demand cloud technology, a user can tap into High Performance Computing (HPC) when you need it and for as long as you need it. RMSC adapts its infrastructure to run existing business and technical applications in their native operating environments.

RMSC has leveled the playing field. An organization can finally compete with large enterprises by scaling up customer computer applications to find solutions to business problems faster and with greater accuracy. This means a user can model more variables, visualize new scenarios, analyze larger data sets and calculate a greater variety of outcomes using your existing business and technical applications.

Any organization that relies on data and software to improve their operations and enhance revenue streams can benefit. Here are some industries that use supercomputing now.

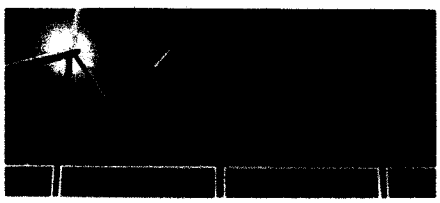
- Energy
- Manufacturing
- Agriculture
- GIS, Land & Water Use
- Risk Management
- Environment & Ecology
- Weather & Climate
- Analytics & Informatics
- Education & Training
- Healthcare & Biomedicine
- Computer Aided Design
- Supply Chain Management

## MORE Power

**MORE Power**, which stands for Maximizing & Optimizing Renewable Energy Power, is a major step forward in the renewable energy sector. A joint effort among Northrop Grumman Corporation, Rocky Mountain Supercomputing Centers (RMSC) and the Montana Governor's Office of Economic Development (GOED), **MORE Power** is an important siting and modeling tool for renewable energy companies and can also be helpful in planning efforts of your energy-related governmental entities.

Utilization of **MORE Power** can be your tool to optimize your wind and solar farm locations, improving the bottom line of renewable energy companies and maximizing the renewable power potential of power producing states. The **MORE Power** team has demonstrated the ability to produce 58% more usable power while having three times fewer significant ramping events for a Montana wind producer.

MORE
MAXIMIZING & OPTIMIZING RENEWABLE ENERGY



POWER

Renewable energy generation suffers from intermittency of power generation, which destabilizes the electrical grid and must be buffered using non-renewable generation sources. **MORE Power** meets the challenge to optimize multiple site locations which helps to minimize intermittency while still maximizing saleable energy. The technology used in developing **MORE Power** was an adaptation of a network optimization tool used to examine the potential performance and feasibility of space-to-ground communication systems as well as the site selection of ground-based laser communications sites. Over 15 years of development has been applied to this site selection optimization tool for the U.S. Government, which is now adapted for wind and/or solar park networks.

## MORE Opportunity

**MORE Opportunity**, which stands for Maximizing & Optimizing Research & Education Opportunity, is a major step forward in a nation-wide effort to enable and prepare students of Montana to take advantage of and to advance their chosen careers using high-technology tools, including supercomputing.

RMSC is advancing its mission and business model to focus on what has been termed as the single biggest need for Americans: helping the underserved educational institutions, ranging from K-12, colleges, universities and research organizations, to build the workforce of the future for the 21st century economy.

RMSC is a new tool by which Montana students (young and mature) can elevate their knowledge and actively build STEM (Science, Technology, Engineering & Mathematics) skills by using HPC allowing them to be competitive in the global workforce. This new mission emphasis to focus on workforce development will allow Montana to be more attractive to high-technology firms within the state and abroad.

The investment by the State is necessary to compete against the skills base and hi-tech draw in areas like Silicon Valley, RTP, Boston, Austin, etc. … Montana should not have to "export" our most precious resource outside of the state.

## Scope & Quality of Work (Selected)

- **NCHCI & USAF**: RMSC is supporting the National Center for Healthcare Informatics meet the requirements of the USAF Aerospace Medicine and Human Performance Integration Research BAA-09-01-RH by providing a next generation, simulation training based system directed toward the USAF Pararescuemen (PJ).

- **USDA**: RMSC and the International Production and Assessment Division (IPAD), Office of Global Analysis (OGA), Foreign Agricultural Service (FAS), U.S. Department of Agriculture (USDA) delivered a joint project demonstrating sustainability improvements in modeling and new crop methodologies focused on global food security.

- **Precision Wind**: RMSC provided supercomputing capability to help their power producer improve their forward visibility into gross power generation and increased operating margins by improving the availability of the wind-generated electricity they sell.

- **MGL**: MGL delivers The UltraCloud service at RMSC and provides mission critical applications at *warp speed*. Currently MGL is servicing the Financial Industry by supporting hedge fund risk scenario analyzes for a prominent hedge fund management firm in New York City.

- **Montana University System**: RMSC is delivering numerous computing and data services to most of the MUS campuses. For example, at **MTech**, the Montana Advanced Research and Virtual Engineering Laboratory (**MARVEL**) is focused on reconnaissance, storage, analysis, simulation, and visualization of large datasets; at **MSU**, RMSC collaborates and runs the **NEO** framework to do erosion simulation, commodities flow models (i.e., financial engineering), and more; at **MSU**, RMSC is hosting and supporting **YERC** (Yellowstone Ecological Research Center) with 8km continental U.S historic climate data modeling and analytics; and at **UM**, RMSC coordinates with **The Earth Restoration Project** helping countries create a prescriptive effort to rehabilitate their environmental systems and restore the integrity of their social systems.

- **CIMM**: The Chilean Institute for Mining & Metallurgy is conducting mining and environmental restoration simulations and modeling studies at RMSC. CIMM is promoting collaborative research with a view to linking the public and private sectors in Chile and to support innovation in the minerals industry.

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## Marketing Engagements (Selected)

| Period | Activity | Results |
|---|---|---|
| November 2009 | IBM Deep Computing Customer Video | Distributed to Key Stakeholders and Media http://www.youtube.com/watch?v=DxdikWSbuaM |
| August 2010 | Microsoft Technical Computing Case Study | Distributed to Key Stakeholders and Media http://www.microsoft.com/casestudies/Case_Study_Detail.aspx?CaseStudyID=4000008253 |
| August 2010 | Communications Strategy Session<br><br>Big Sky Frontier Email News distributed weekly | Communications Plan Drafted<br><br>Delivered to Montana Media, Legislators, Key Stakeholders |
| September 2010 | Baldwin Press Release | Multiple Hits in Montana Media |
| October 2010 | RMSC Big Sky Video Produced<br><br>Montana Media Blitz | Distributed to Key Stakeholders and Media http://www.youtube.com/watch?v=hZSLLhsBZGQ<br><br>Article in *Montana Standard*<br>Article in *Billings Gazette*<br>Article in *Great Falls Tribune*<br>Interview on KXLF TV<br>Interview on KNOW Radio<br>Interview on KPAX TV<br>Articles Pending in *Missoulian* |
| November 2010 | MORE POWER Press Release<br><br>RMSC TV Ad Produced | Multiple Hits Worldwide, especially in Renewable Energy Publications<br><br>Begins running in January 2011 on Bresnan Cable TV |
| December 2010 | Dodd's HPC Cloud Columns<br><br>Wind Energy Feature Article | First Column published in "HPC in the Cloud" international newsletter; Second to be published March 2011<br><br>Submitted to *Renewable Energy World* magazine (23,000 circ.) |
| January 2011 | New Board Member Press Release<br><br>Renewable Energy World Awards Nomination<br><br>RMSC Supports Society of HPC Professionals w/Press Release | Distributed to Montana Media<br><br>RMSC nominated for innovative renewable energy technology award<br><br>PR picked up nationally |
| Ongoing | Market Awareness | RMSC's Big Sky Technology Frontier eNewsletters via Constant Contact |

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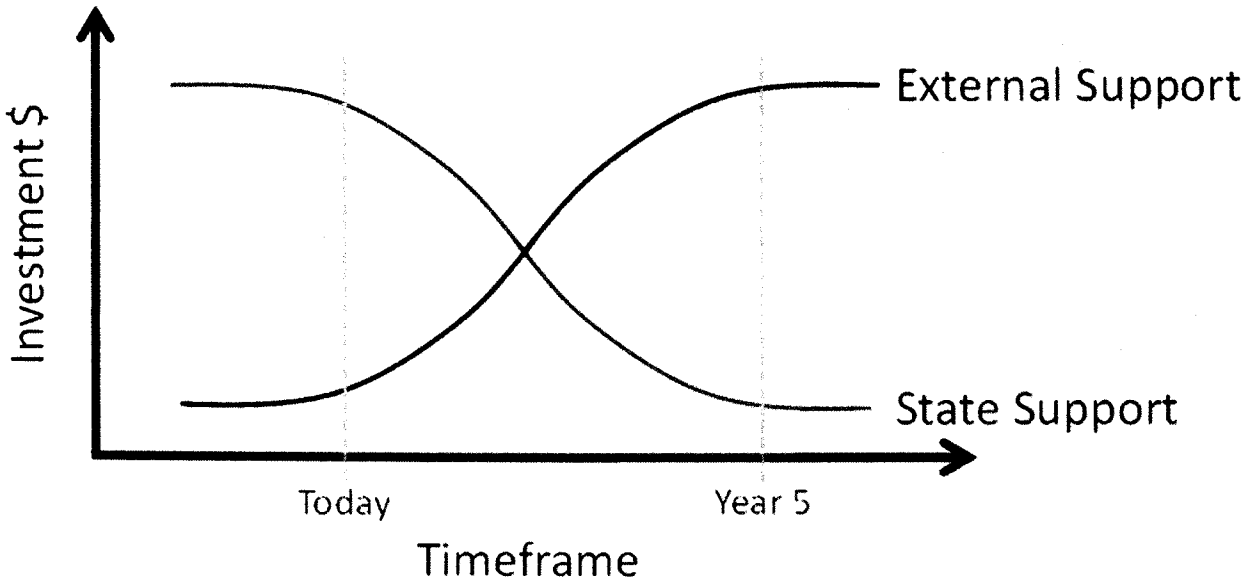
## Sustainability Roadmap

RMSC acknowledges that sustainability is an interlocking network comprised of everything a business, academia, a community and the government touches. Our Roadmap to Sustainability holistically integrates business needs, government needs, societal and economic initiatives, which are fundamentally shifting the role that governance plays in building a sustainable economic foundation. RMSC is part of Montana's high-technology foundation that helps transforms Montana's identity into a national and global leader.

### What is Sustainability?

Sustainability means different things to different people. At RMSC, we understand sustainability to mean stewardship of all the financial and human resources allotted to RMSC while delivering on our mission to drive workforce development to underserved Montana communities, businesses and educational institutions to meet the 21st century technology skillset demand.

RMSC has a five-year business plan to reach full sustainability; and we are on track. RMSC will close out Year 2 of its business plan June 30, 2011. The chart below graphically outlines the stage of sustainability and investment required to reach our business objectives.



## RMSC's Sustainability Philosophy

RMSC's business model synergizes the major elements as detailed *in Natural Capitalism: Creating the Next Industrial Revolution*, co-authored (with Paul Hawken and Hunter Lovins) by Rocky Mountain Institute CEO Amory B. Lovins.

- **Radically increase the productivity of resource use.** Through fundamental changes in production design and technology, leading organizations are making natural resources stretch five, ten, even 100 times further than before. The same can be said with human resources. The resulting savings in operational costs, capital, and time quickly pay for themselves, and in many cases initial capital investments actually decrease.

- **Shift the business model away from the making and selling of "things" to providing the service that the "thing" delivers.** The business model of traditional manufacturing rests on the sporadic sale of goods. The Natural Capitalism model delivers value as a continuous flow of services—leasing an illumination service, for example, rather than selling light bulbs. This shift rewards both provider and consumer for delivering the desired service in ever cheaper, more efficient, and more durable ways. It also reduces inventory and revenue fluctuations and other risks.

- **Reinvest in natural and human capital.** Any good capitalist reinvests in productive capital. Businesses, academia and government are finding an exciting range of new cost-effective ways to restore and expand the natural capital directly required for operations and indirectly required to sustain the supply system and customer base.

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## Personnel

| | | |
|---|---|---|
| **Earl J. Dodd** | President & CEO | FTE: 1.0 |
| **Holli Parrow** | Executive Administrator | FTE: 1.0 |
| **Dr. Phillip Curtiss** | HPC Architect | FTE: 0.75 |
| **Josh Barth** | Sr. Network Administrator | FTE: 0.75 |
| **Brit Keith** | Network Administrator | FTE: 0.75 |
| **Gary Rowe** | Acting CFO | FTE: 0.2 |

## Recent Endorsements

**From:** Shawana Johnson
**Sent:** Monday, January 24, 2011
**To:** Earl J. Dodd
**Cc:** Tom Kerr; Sherry Loy
**Subject:** References for RMSC from Global Marketing Insights, Inc.

Dear Earl,

Currently Global Marketing Insights, Inc. has included The RMSC in two major proposals to provide super computing capabilities and geospatial and data handling expertise with:

1. The US Department of Agriculture and Private Industry in a specific Agriculture Analysis application program including crop analysis within the Montana.
2. The Private Industry Sector and the US Department of Defense and Intelligence Community with value added analysis support provided by additional Montana based GIS companies.

We find the resources provided by The RMSC invaluable and these proposals will be awarded by June 2011. In addition thank you to the support you provided in the recent meeting with The SI Organization, Inc. (Lockheed Martin, Corp. divestiture). Your insight into their current projects needs and the way in which RMSC can support them will be invaluable.

Please feel free to have anyone contact our offices to speak with us about the necessity of RMSC and its value to the Private as well as the Public Sector in terms of economic development and growth.

Best regards,

Shawana

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**From:** Chris Vasko
**Sent:** Monday, January 24, 2011
**To:** Earl J. Dodd
**Cc:** Vasko, Chris (N-The SI)
**Subject:** Reference from The SI Organization, Inc.

Hello Earl,

Thank you so much for hosting – The SI Organization, Inc. (the recent spin off company from Lockheed Martin Corp.) last week in your Butte, MT facility.

The SI Organization is interested in exploring the potential of the RMSC capability to support the development of new offerings for SI skills and capabilities to the expanding commercial, federal and civil Geographic Information Systems (GIS) markets. The SI has a 35 year history providing mission solutions to the U.S. National Intelligence Community through the application of a broad set of engineering and analytical capabilities in the imagery, signals, communications, geographic and data process\sing domains. Our primary role is to ensure mission closure of existing and new capabilities in our intelligence infrastructure to ensure 100% availability for the protection of U.S. national interests and military forces. These capabilities are highly valued by our customers and present us a unique opportunity to apply them to help solve a broader set of mission challenges.

The RMSC has the potential to play a significant role to meet these challenges as a global data processing and dissemination engine that can revolutionize the way governments, businesses and other organizations meet their needs through the application of GIS. The SI envisions RMSC as a smart, high capacity, high volume data ingest and processing "hub" that integrates data from a large variety of providers and creates new products based on innovative applications developed by industry, academic and government users, both domestically and internationally. Together with the available high speed "gigapop" network, the emerging high technology infrastructure and the essential economic development initiatives of the state of Montana, an RMSC collaboration is an attractive option for the SI.

Chris Vasko, The SI.
*[email and contact information withheld due to Lockheed Martin's legal requirement during divestiture]*

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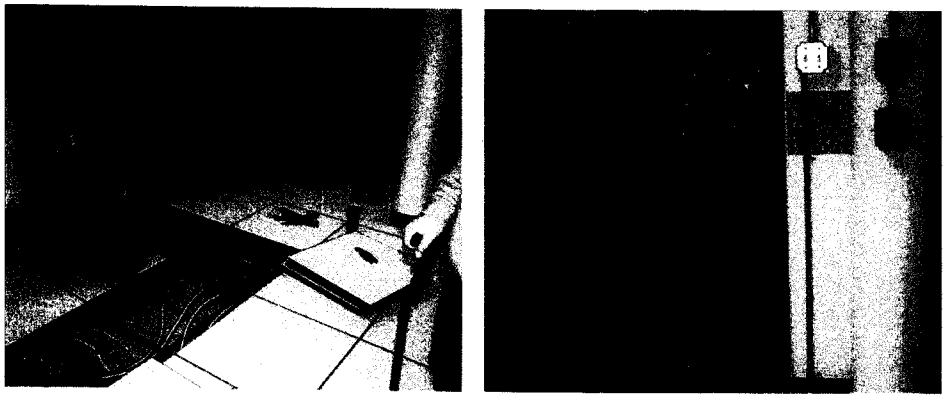
## Reference

FY2009 HB 645 State Allocation of $2M for RMSC Operations

Contract #MT-09-819-002, executed on March 30, 2009, as amended by Contract Amendment# MT-09-819-002A on August 6, 2009, Contract Amendment# MT-09-819-002B on September 11, 2009, and Contract Amendment# MT-09-819-002C on December 31, 2009

## Pictures of Supercomputer & Facility



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# Frequently Asked Questions (FAQs)

### What is High Performance Computing?

High Performance Computing—HPC—is a level of computing that is capable of processing computations faster and greater data volumes to solve business problems quickly. In addition, HPC can run a greater number of computations (simulations or models) in a shorter period of time to generate results with higher fidelity and accuracy.

### What's the difference between Supercomputing and HPC?

The terms are essentially synonymous.

### What is the benefit of running business workloads on the HPC Cloud?

In terms of running business and technical applications, the HPC Cloud provides access to millions of dollars of computing power and related high performance capabilities that most businesses don't have access to in-house. Besides access, another key benefit is consumers pay only for as long as they use it—essentially, you pay by the click-bit-or-byte.

### Is the HPC Cloud the same as Amazon's Elastic Compute Cloud (Amazon EC2)?

No, the HPC Cloud offers significant advantages in sustainable performance, reliability and repeatability of results.

### Why put a supercomputing capacity in Montana?

Two reasons. First, Montana's leadership understands the value of making supercomputing technology available to small- and medium-sized enterprises so that they become more competitive in a tough, global and evolving economy. The RMSC capability was installed to drive economic development and sustainability for Montana. Secondly, Montana is in the middle of the 'Great North American Supercomputing Desert.' In other words, RMSC is the first HPC Cloud, or supercomputing capability, in the entire region allowing Montana to lead regional development and growth.

### What types of organizations can use the HPC Cloud?

HPC applications run the gamut of nearly all public- and private-sector applications. In terms of commercial businesses, HPC offers benefits in both conventional and renewable energy, agriculture, water management, land use management, public safety, infrastructure protection, manufacturing and supply chain optimization, just to name a few.

### How will RMSC benefit Montana?

HPC is a principle tool used by the State for the economic development of small- to medium-sized enterprises (SMEs), which are the foremost jobs creators in every state. Affordable access to HPC makes SMEs competitive against much larger companies or organizations, thus helping smaller enterprises remain economically viable. This tool basically creates jobs, sustains the job base and saves skills in the workforce. RMSC is also helping Montana make the transition to the knowledge-based economy that will dominate the 21st Century.

### How does RMSC enable small- to medium-sized enterprises to take advantage of HPC?

We break down the barriers to HPC technology that has traditionally stood in the way of the SMEs. These barriers include price, access, culture, support and security. RMSC has broken down these obstacles by providing an 'on-demand' business model that provides access to an SME without having them to hire an expert staff or invest in new cyberinfrastructure.

### What's different about RMSC's HPC Cloud technology that makes it accessible to SME's?

We customize our HPC platform to work with our client's operating environment and computational needs. RMSC provides the technical expertise to run the client's business or technical application in a true HPC environment.

### How is it possible for RMSC to offer the on-demand HPC Cloud for SME access?

The ability to connect multiple HPC systems via the Internet makes it possible to share capacity among multiple HPC facilities so that sufficient computing power is always available to clients when they need it. The recent commoditization of related hardware, networking and software technologies has also helped reduce costs. Via secure access, the offering is based on industry standards so that anyone can access RMSC's HPC Cloud.

### Why are other HPC organizations forming partnerships and alliances with RMSC?

They see the value in the RMSC business model and understand the SME market is enormous and underserved. It simply makes good business sense to partner with RMSC.

### How successful has RMSC been at achieving its business goals?

We have been very successful. In about a year, RMSC has put HPC Cloud technology into practice, and we are now serving clients. In fact, we are currently looking for Montana SME's (businesses, agencies and tribal enterprises) by offering to run their business and technical applications during a limited-time, very low cost (subsidized) pilot program.

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# Resume of Earl J. Dodd

*Qualification Summary*

Executive Leader, Technical Strategist and Business Development Executive driving the new cloud computing market that combines high performance computing (HPC), 3D visualization, 3D virtual worlds and global collaboration technologies. Areas of specialization include:

- Strategic planning & implementation
- TelePresence and global teaming
- UltraScale architectures
- Distributed, remote 3D visualization
- Computational steering workflows
- HPC cloud computing

*Professional Accomplishments*

- **SALES**—Lead RMSC as a technology-based economic development engine for Montana. Drove IBM Deep Computing 2008 sales attainment of US$3.8B by leading the worldwide technical pre-sales team.
- **LEADERSHIP**—Positioned RMSC as world's first HPC Cloud business model for economic development. Positioned IBM to dominate the Top500 Supercomputers Sites List and helped achieve the first PetaScale supercomputer (LANL RoadRunner).
- **PRODUCT DEVELOPMENT**—Created the following HPC offerings: RMSC Cloud Appliance; First HPC Cloud Alliance by RMSC; Deep Computing Visualization (DCV) leveraging over US$7M in hardware sales for every DCV dollar spent on DCV; DeepPresence (DCV + Cisco TelePresence) that will be deployed by IBM GTS and Cisco in 2009; and integrated remote 3D collaboration into virtual worlds for IBM's Digital Convergence team.
- **HPC SERVICES**—Co-created the Deep Computing Services (part of STG Lab Services) 2009 offering that is expected to drive over US$20M net-new revenue to Deep Computing.
- **STRATEGY**—Built a long-term, sustainable economic growth model for local, state, regional and national governments by creating a replicable public-private partnership model. The model's first example is the State of Montana and the Rocky Mountain Supercomputing Centers, Inc. (RMSC).
- **COMMUNICATION**—Recognized expert and speaker in HPC for the Public and Industrial Sectors (Aerospace, Automotive, Government, Higher Education, PLM/CAD/CAM/CAE, Upstream Petroleum, and Weather/Climate).

*Professional Experience*

**Rocky Mountain Supercomputing Centers, Inc.** 2010 - Present
**Executive Director, President & CEO**

Provides leadership of the world's first public-private partnership for the HPC Cloud among the State of Montana, HPC Venders and the Rocky Mountain Supercomputing Centers, Inc. (RMSC). Drives sales and business development supporting the Governor's Supercomputing Initiative for economic growth. Creates the first true hybrid HPC Cloud linking other on demand centers worldwide. Supports DCV development, technical support and sales worldwide.

**IBM CORPORATION** 2003 - 2010
**Deep Computing Strategist & Business Development Executive**

Provides project leadership for IBM's Deep Computing Visualization (DCV) product with a US$1.0M development budget and $1.75M SG&A budget. Defines the vision and resources necessary to drive the overall strategy for HPC and 3D visualization at IBM. Supports the Chemical & Petroleum (C&P) upstream segment as acting CTO. Leads Deep Computing Services for HPC worldwide opportunities.

**IBM CORPORATION** 1999 - 2003
**Manager, Worldwide HPC Technical Sales**

Drove IBM success on Top500 Supercomputer Sites List as the worldwide HPC pre-sales manager. Lead and launched the AMD Opteron acceptance for Deep Computing. Helped launch Linux on POWER for HPC. Helped define the CEO's Open Source Software Initiative which lead to the creation of the LTC (Linux Technology Center) and an initial $US1.0B investment by IBM.

**FUJITSU AMERICA INC.** 1996 - 1999
**Senior Systems Engineer**

Managed the San Jose, California data center including all technical resources and the Fujitsu Japan development interface. Managed pre- and post-sales activities as technical project leader for North America and the UK. Benchmarked numerous applications, resulting in sales or upgrades.

**BUSINESS COMPUTER SERVICES INTERNATIONAL (BCSI)** 1991 - 1996
**Chief Technical Officer**

Co-founded and lead BCSI as the Chief Technical Officer supporting scientific and commercial application development, porting and optimization for organizations worldwide—annual revenue of US$1.75M. Developed a generalized and automated testing framework for a supermajor oil company supporting marine and offshore engineering applications.

**CRAY RESEARCH, INC.** 1985 - 1991
**America's Technical Support Specialist**

Lead the Americas Technical Support team servicing scientific and technical clients on vector and MPP-class systems. Designed and developed the CRI Network Supercomputing (NSC) demonstration product—a first of a kind—that displayed slide shows and real-time application demonstrations across networked Cray, Macintosh and X Window System workstation platforms.

**TEXACO USA / GETTY OIL CO.** 1983 - 1985
**Mining Engineer Research Analyst**

Created and maintained graphical user interfaces (GUIs) for the Oilfield Piping System and reservoir simulators. Responsible solely for Getty's minerals software environments including MEDSYSTEM, SEAMSYS and geostatistical packages. Developed new kriging and sampling algorithms. Conducted geostatistical analyses on hard rock, coal and hydrocarbon reservoir structures.

*Education*

**TULANE UNIVERSITY**, New Orleans, Louisiana USA
Master of Business Administration (MBA), Concentration in Finance, 2006 (Valedictorian)

**MONTANA COLLEGE OF MINERAL SCIENCE and TECHNOLOGY**, Butte, Montana USA
Master of Science in Mining Engineering, 1982 (High Honors)

**MONTANA COLLEGE OF MINERAL SCIENCE and TECHNOLOGY**, Butte, Montana USA
Bachelor of Science in Mining Engineering, 1981